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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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In the Matter of	)	
	)	
Communications Assistance for	)	CC Docket No. 97-213
Law Enforcement Act	)	

COMMENTS OF THE CELLULAR TELECOMMUNICATIONS INDUSTRY ASSOCIATION

The Cellular Telecommunications Industry Association ("CTIA")[1] submits these comments in response to the Commission's request for comments in the above referenced proceeding.[2]

I. INTRODUCTION

CTIA is pleased that the FCC is taking seriously its responsibility to undertake a careful analysis of the impact of any punch list feature on the cost of CALEA compliance. Section 107 requires that the capability requirements of Section 103 be met by cost-effective means. In other words, if a capability cannot be provided by a cost-effective method, the Commission cannot require it at all. This obligates the Commission

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[1] CTIA is the international organization of the wireless communications industry for both wireless carriers and manufacturers. Membership in the association covers all Commercial Mobile Radio Service (CMRS") providers and manufacturers, including 48 of the 50 largest cellular and broadband personal communications service ("PCS") providers. CTIA represents more broadband PCS carriers and more cellular carriers than any other trade association.

[2] *Public Notice*, DA 99-863, CC Docket No. 97-213, released May 7, 1999, *Comment Sought on CALEA Revenue Estimates of Five Manufacturers.*

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to make specific findings on cost and competition, and to reject any additional surveillance capability that adversely affects the public interest. The Commission's review must include the cost of the J-STD-025 itself, as well as the punch list items. Indeed, as CTIA advised in its initial comments, the Commission must consider the total dinner bill, and not just the cost of dessert!

CTIA knows first-hand how difficult it is to estimate, even on an aggregate basis, carriers' total cost to upgrade existing switches to meet the requirements of the interim industry standard (J-STD-025) and each of the nine "punchlist" capabilities sought by the Department of Justice ("DOJ") and the Federal Bureau of Investigations ("FBI"). CTIA conducted its own survey of wireless industry costs, using an independent third party accounting firm to aggregate the information we received from twenty-one wireless carriers and the six wireless switch manufacturers.[3] As described below, the FCC's data gathering activities validate the cost estimates obtained by CTIA, and demonstrate that the costs of upgrading to the J-standard alone are substantial, and that each item on the punch list will add even more costs.

II. BOTH THE FCC AND CTIA SURVEYS ESTABLISH THAT CALEA COSTS WILL BE SIGNIFICANT

Both the Commission and CTIA have conducted similar surveys of wireless carrier costs. CTIA provided the results of its survey in its Reply Comments in this proceeding,[4] while the Commission disclosed its results in a May 7, 1999 Public Notice.[5]

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[3] CTIA Reply Comments, at n.23 (Jan. 27, 1999). It bears noting that the Justice Department also has conducted a survey of CALEA compliance costs. Attorney General Reno requested such information in the Spring 1998, and the industry provided her with cost information on an expedited basis. Despite promises to the contrary, Attorney General Reno has not released the information to the industry or the public. *See* CTIA Comments at 6-7 (Dec. 14, 1999); CTIA Reply Comments at 14.

Despite the differences in methodology, the number of responding companies, and the assumptions of the respondents to the survey documents, the results of the two surveys are extremely close. And, most importantly, both surveys confirm that the cost of implementing CALEA requirements is very significant.

A. The CTIA Survey

Much like the FCC, CTIA requested and received data on the cost of compliance with the CALEA capabilities requirements pursuant to a pledge of confidentiality. Responses were received from twenty-one wireless carriers, based on the cost information they had received from their vendors, and directly from six wireless switch manufacturers. In addition, CTIA asked carriers to disclose the number of switches covered by the compliance cost data being reported, information that permitted CTIA to derive an estimate of the compliance cost per switch. Since CTIA separately had obtained information on the number of wireless switches, CTIA was able to estimate industry-wide compliance costs by multiplying the average cost per switch by the known universe of wireless switches. CTIA also asked carriers to provide cost information, where known, associated with the three categories of costs associated with intercepting telephone calls: capability, capacity and operational costs.[6] The CTIA survey instrument

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[4] CTIA Reply Comments, at n.23 (Jan. 27, 1999).

[5] *Public Notice*, DA 99-863, CC Docket No. 97-213, Released May 7, 1999, *Comment Sought on CALEA Revenue Estimates of Five Manufacturers.*

[6] Capability costs are the costs to generate the messages and to intercept the calls of interest. Capability costs include the hardware and software costs to modify switches, administrative systems, support systems, and the "delivery function." Capacity costs are the costs associated with physically providing access to the intercepted calls and the associated messages. Operational costs are the charges for operating the equipment,

requested and received data for these specific cost categories: hardware costs for capability; software costs for capability; delivery function costs, if not provided by the vendor; capacity hardware costs; direct costs; and indirect costs.

CTIA's CALEA Cost Survey results indicate that average upgrade costs per switch for wireless carriers are expected to be $756,091 for the J-STD-025 alone. Average annual operational costs per switch to comply with CALEA (under the J-STD-025), including direct and indirect costs, are approximately, $118,168. An additional $299,458 was indicated to be required in upgrade cost per switch for the punchlist items.[7]

B. THE FCC Survey

The FCC received data from five telecommunications equipment manufacturers pursuant to a grant of confidentiality. Alcatel Network Systems, Lucent Technologies Inc., Motorola, Inc., Northern Telecom Inc., and Siemens Information and Communication Networks responded. The Commission's Public Notice states that the revenue estimates provided by the five manufacturers were not completely comparable because the manufacturers made different assumptions and included information on different CALEA capabilities.[8]

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although CALEA does not provide for their recovery, beyond that which is used to "transport" the intercept to the law enforcement premises.

[7] None of CTIA's participants assumed a bulk government "buyout" and licensing scheme. Such a program may be an option to the government, but is not available to individual carriers in forecasting their costs. As CTIA has previously noted, it may be possible for the government to obtain a significant discount, perhaps as much as 40%, for a nationwide acquisition of vendor CALEA solutions. *See* CTIA Comments at 12.

[8] *Public Notice*, DA 99-863, CC Docket No. 97-213, Released May 7, 1999, *Comment Sought on CALEA Revenue Estimates of Five Manufacturers*.

The FCC Survey does not include cost data from Ericsson, which comprises approximately 30% of the U.S. mobile telephone equipment market.[9] Moreover, the five manufacturers which did participate do not supply entirely comparable information. It appears that the FCC did not request or specify whether it wanted cost information for hardware or software or both, so the respondents made different assumptions in providing information.[10]

The fact that some manufacturers responding to the FCC's survey assumed a government "buy-out" or "bulk purchase" of CALEA software is an important cost factor. As previously noted, purchase of CALEA software by the government would likely be discounted as much as 40%. However, it would not be appropriate for the FCC to factor these savings into its costs estimates at this time. First, it is not likely that the government will have enough money to purchase the upgrade software for all wireline and wireless switches that will need to be upgraded. Further, the government is only proposing to purchase the right to license software for pre-grandfather date switches. It is most likely that there will be switch platforms for which carriers will have to individually purchase upgrades from vendors. Moreover, the cost of upgrading the non-buyout

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[9] Nikhil Hutheesing, *TDMA or Bust*, Forbes, April 7, 1997. *See* http://eriweb.ericsson.se/wireless/about/subpages/asales.shtml.

[10] In addition, some carriers included location information as part of the core J-STD-025 and others did not; some carriers included a capability for packet-mode communications in their J-STD-025 revenue estimates while others did not; some carriers predicated their revenue estimates on a government "buyout" plan under which the DOJ/FBI would pay the manufacturers a licensing fee for CALEA-related upgrades for switches and the manufacturers would make the upgrades freely available to carriers; some carriers based revenue estimates on the existing number of switches in service; while others estimated revenues based on the number of switches they anticipate will be in service by the time their upgrades are sold to carriers. *See* Public Notice, DA 99-863, rel. May 7, 1999.

switches is likely to be higher for individual carriers both because they lack the "bulk" purchasing power of the government, and since nothing prevents switch vendors from negotiating a lower bulk sales price with the government that will not recover all of the vendor's software development costs, and then seeking to recover the remainder of these development costs from individual carriers. Presumably all of a vendors costs will be recovered, either through the terms of the "bulk" sale to the government, or from sales to individual carriers who must buy the software to upgrade post-grandfather date switches and switches not otherwise purchased by the government.

C. Reconciling the CTIA and FCC Surveys

Even though there were several differences in the way the FCC and CTIA collected CALEA cost information, and there were substantive differences of what assumptions were included into the responses, comparing the results of the two surveys reveals that the estimates for wireless carriers' CALEA compliance costs are close.

Twenty-one companies participated in the CTIA-CALEA Cost Survey, including Ericsson Mobile Systems. According to information from Ericsson's website, it is the world's largest provider of mobile communications systems. In a 1997 article, Forbes published an estimate from Merrill Lynch that Ericsson had 30% of the U.S. mobile telephone equipment market.[11] A more recent report from Ericsson's website states that as of August 31, 1998, Ericsson garnered a 28.2% share of the U.S. market.[12] The FCC study notably did not include data from Ericsson. Because of Ericsson's relatively large

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[11] Nikhil Hutheesing, *TDMA or Bust*, Forbes, April 7, 1997.

[12] *See* http://eriweb.ericsson.se/wireless/about/subpages/asales.shtml.

share of the wireless market, this information gap is significant—requiring some mathematical extrapolation in order to estimate aggregate cost data.

Since January, 1985, CTIA has conducted a semi-annual data survey, developing industry-wide information on the wireless industry. In the most recent data survey, released April 1,1999, CTIA reported 69,209,321 wireless subscribers. Through the data survey, CTIA also was able to determine that 829 wireless switches were in use at year end 1998. By using CTIA's number of wireless switches as the denominator for the aggregate revenue information published by FCC, CTIA derived an aggregate cost per switch for the J-STD-025 and the punchlist for wireless carriers.[13] This calculation yielded an estimate of $419,783 in upgrade costs per switch for the J-STD-025 alone, and $282,268 in upgrade costs per switch for the punchlist capabilities, totaling $702,051 in CALEA upgrade costs per switch.

When CTIA's estimate of total wireless switches is adjusted by Ericsson's approximate market share—since the FCC's data did not include estimates from Ericsson—yields 580 wireless switches.[14] When the FCC estimated wireless revenues for the J-STD-025 are divided by the number of "non-Ericsson switches", *i.e.*, 580, the result is an estimated upgrade cost per switch of $600,000. Inclusion of the punchlist costs produces a total upgrade cost per switch of $1,003,448.[15] This compares to the CTIA-CALEA Survey estimates of $756,091 for the J-STD-025 and $299,458 for the punchlist, totaling $1,055,549. These estimates are very close. Furthermore, both

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13 The FCC's revenue estimates were not provided on a per switch basis.

14 Multiply 829 times 70% to yield 580.

surveys show that the cost of CALEA compliance for the wireless industry will cost anywhere from three-quarters of a million dollar per switch for the J-STD-025 alone or in excess of a million per switch if the punchlist items are included.

Further, the FCC's cost data assumes the existence of a bulk sale to the government. This important assumption, combined with the absence of Ericsson's revenue estimates data, the fact that some participants in the FCC survey did not give values representing both hardware and software costs for capability, and capacity hardware, plus other differences in methodology more than adequately account for any slight differences between the FCC and CTIA cost estimates. Indeed, the survey estimates are very close—uniformly demonstrating the significant costs of CALEA compliance on the industry.

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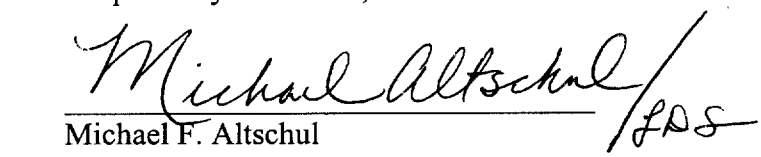
[15] CTIA did not discount the punchlist figure because of the softness of these figures due to the fact that not all five of the manufacturers responded with cost data for every punchlist item.

III. CONCLUSION

In asking for these comments, the FCC is focussing on the central issue of this proceeding. The FCC must make decisions regarding the capability requirements of Section 103 mindful of the costs and of the directive of Section 107 that CALEA implementation be cost-effective. It is clear from both surveys that the J-STD-025 and the requested punchlist capabilities can only be had at costs that are so significant that they must therefore be denied.

Respectfully submitted,



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